

CLAIMS

1. A method of treating a disease or medical condition comprising administering a therapeutic amount of a drug ester condensation aerosol, having an MMAD less than 3 μm and less than 5% drug ester degradation products, to a patient by inhalation, upon activation by the patient of the formation of, and delivery of, the condensation aerosol.
2. The method of claim 1, wherein said condensation aerosol is formed by
 - a. volatilizing a drug ester under conditions effective to produce a heated vapor of the drug ester; and
 - b. condensing the heated vapor of drug ester to form condensation aerosol particles.
3. The method according to claim 2, wherein said administration results in a peak plasma concentration of said drug ester in less than 0.1 hours.
4. The method of claim 2, wherein the drug ester is selected from the group consisting of: esters of antibiotics; esters of anticonvulsants; esters of antidepressants; esters of antihistamines; esters of antiparkinsonian drugs; esters of drugs for migraine headaches; esters of drugs for the treatment of alcoholism; esters of muscle relaxants; esters of anxiolytics; esters of nonsteroidal anti-inflammatories; esters of other analgesics; or esters of steroids.
5. The method according to claim 3, wherein the administered aerosol is formed at a rate greater than 0.5 mg/second.
6. The method according to claim 1, wherein at least 50% by weight of the condensation aerosol is amorphous in form.
7. A method of treating a disease or medical condition comprising administering a therapeutic amount of an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a

drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid condensation aerosol, having an MMAD less than 3 μm and less than 5% of an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid degradation products, to a patient by inhalation, upon activation by the patient of the formation of, and delivery of, the condensation aerosol.

8. The method of claim 7, wherein said condensation aerosol is formed by

a. volatilizing an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid under conditions effective to produce a heated vapor of an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid; and

b. condensing the heated vapor of an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid to form condensation aerosol particles.

9. The method according to claim 7, wherein said administration results in a peak plasma concentration of an ester of an antibiotic; ester of an anticonvulsant; ester of an

antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid in less than 0.1 hours.

10. The method according to claim 7, wherein at least 50% by weight of the condensation aerosol is amorphous in form.

11. The method according to claim 7, wherein said ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid condensation aerosol has an inhalable aerosol mass density of between 0.1 mg/L and 100 mg/L when delivered.

12. The method according to claim 7, wherein the nonsteroidal anti-inflammatory is selected from a group consisting of ketoprofen, ketorolac, and indomethacin.

13. The method according to claim 7, wherein the antiparkinsonian drug is apomorphine.

14. The method according to claim 7, wherein the ester is a methyl ester, an ethyl ester, or a norcholine ester.

15. The method according to claim 13, wherein the ester is apomorphine diacetate.

16. A method of administering a drug ester to a patient to achieve a peak plasma drug concentration rapidly, comprising administering to the patient by inhalation an aerosol of a drug ester having less than 5% drug ester degradation products and an MMAD less than

3 microns wherein the peak plasma concentration of the drug ester is achieved in less than 0.1 hours.

17. A method of administering an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid to a patient to achieve a peak plasma drug concentration rapidly, comprising administering to the patient by inhalation an aerosol of an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid having less than 5% an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid degradation products and an MMAD less than 3 microns wherein the peak plasma drug concentration of an ester of an antibiotic; ester of an anticonvulsant; ester of an antidepressant; ester of an antihistamine; ester of an antiparkinsonian drug; ester of a drug for migraine headaches; ester of a drug for the treatment of alcoholism; ester of a muscle relaxant; ester of an anxiolytic; ester of a nonsteroidal anti-inflammatory; ester of an other analgesic; or ester of a steroid is achieved in less than 0.1 hours.

18. A kit for delivering a drug aerosol comprising:

- a) a thin coating of a drug ester composition and
- b) a device for dispensing said thin coating as a condensation aerosol.

19. The kit of claim 18, wherein the drug ester in the composition is selected from the group consisting of esters of antibiotics; esters of anticonvulsants; esters of

antidepressants; esters of antihistamines; esters of antiparkinsonian drugs; esters of drugs for migraine headaches; esters of drugs for the treatment of alcoholism; esters of muscle relaxants; esters of anxiolytics; esters of nonsteroidal anti-inflammatories; esters of other analgesics; or esters of steroids.

20. The kit of claim 18, wherein the device for dispensing said coating of a drug ester composition as an aerosol comprises

- (a) a flow through enclosure,
- (b) contained within the enclosure, a metal substrate with a foil-like surface and having a thin coating of a drug ester composition formed on the substrate surface,
- (c) a power source that can be activated to heat the substrate to a temperature effective to volatilize the drug ester composition contained in said coating, and
- (d) inlet and exit portals through which air can be drawn through said device by inhalation,

wherein heating the substrate by activation of the power source is effective to form a drug ester vapor containing less than 5% drug ester degradation products, and drawing air through said chamber is effective to condense the drug ester vapor to form aerosol particles wherein the aerosol has an MMAD of less than 3 microns.

21. The kit according to claim 20, wherein the heat for heating the substrate is generated by an exothermic chemical reaction.

22. The kit according to claim 21, wherein said exothermic chemical reaction is oxidation of combustible materials.

23. The kit according to claim 20, wherein the heat for heating the substrate is generated by passage of current through an electrical resistance element.

24. The kit according to Claim 20, wherein said substrate has a surface area dimensioned to accommodate a therapeutic dose of the drug ester composition in said coating.

25. The kit according to claim 18, wherein a peak plasma concentration of drug ester is obtained in less than 0.1 hours after delivery of the condensation aerosol to the pulmonary system.
26. The kit of claim 18, further including instructions for use.